<u>**REMARKS**</u>

Claims 1-11, 13, 14, 16 and 17 are currently pending in the subject application and are presently under consideration. Claims 1-3, 5, 6, and 8-11 have been amended as shown on pages 2-5 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I.   <u>**Rejection of Claims 1-11, 13-14 and 16-17 Under 35 U.S.C. §103(a)**</u>

Claims 1-11, 13-14 and 16-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Birsan, *et al.* in view of Le Hégaret, *et al.* It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Birsan, *et al.* and Le Hégaret, *et al.*, individually or in combination, do not teach or suggest each and every feature set forth in the subject claims.

> "Under 35 U.S.C. 103 where the examiner has relied on the teachings of several references, the test is whether or not the references viewed individually and collectively would have suggested the claimed invention to the person possessing ordinary skill in the art. It is to be noted, however, that citing references which merely indicated that isolated elements and/or features recited in the claims are known is not a sufficient basis for concluding that the combination of claimed elements would have been obvious. That is to say, there should be something in the prior art or a convincing line of reasoning in the answer suggesting the desirability of combining the references in such a manner as to arrive at the claimed invention... [I]t would not have been obvious to modify [the prior art] ... without using [the patent application's] claims as a guide. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness." *Ex parte Hiyamizu*, 10 USPQ2d 1393 (BPAI 1988).

The subject claims relate to ontological modeling of documents for indexing and searching. A document to be indexed can be analyzed for specific properties or keywords, and one or more domain model objects representing the document can be generated based on the analysis. To this end, a pre-set vocabulary list of keywords of interest can be compared with the document to ascertain if the document contains one or more matching keywords. The type of object created for the document can be dependent on the keywords or other features found in the

document. Moreover, upon discovery of a predetermined keyword in the document, a further analysis can be performed to determine a context for the keyword as used in the document. This can facilitate more accurate modeling when a single keyword may have multiple possible meanings or connotations. This additional analysis can involve identifying additional keywords related to the matching keyword. The resulting domain model object can be a function of both the matching keyword and the additional related keywords. Once created, the domain object model, which can contain computation-ready properties related to the document, can be stored as part of a collection of other such models for subsequent searching and analysis. In particular, amended independent claim 1 recites, *analyzing features of a document for the presence of specific keywords, the keywords defined in a pre-set vocabulary list; determining the presence of a keyword in the document that matches a keyword appearing in the pre-set vocabulary list;* *[and]* **searching the document for additional keywords related to the matching keyword to determine a context for the matching keyword; generating a set of domain models that represent the document, the domain models selected to represent the document are a function of the matching keyword and the additional related keywords**.

Birsan, *et al.* does not disclose such a method for generating a domain model object representing a document. Birsan, *et al.* relates to a method for reformatting a domain model according to directives encoded in a template file. Specific data from a source model is extracted in accordance with the template file, and the extracted data is reformatted into a target data model. However, the cited reference does not teach or suggest searching a document for a matching keyword, and *subsequently searching for additional keywords in the document related to the matching keyword*. Nor does Birsan, *et al.* disclose creating a set of domain models as a function of both the matching keyword *and the additional related keywords*. These aspects of the subject claims can facilitate more accurate modeling of documents by determining how similar keywords are used contextually among different documents. Le Hégaret, *et al.*, which is merely a primer on Document Object Models, is also silent regarding such a technique for generating object models representing documents.

Further regarding analysis of the aforementioned domain models, the subject claims disclose that, upon submitting a query and receiving a set of domain models representing a set of documents, data relating to the collective content of the documents can be gleaned from the retrieved objects using algorithms run against the properties of the domain model. The results of

such analysis can generate data relating to the collected documents as a whole (*e.g.* average success rates of medical treatments, *etc.*). In particular, amended independent claim 9 recites, *identifying a set of the domain models that match criteria of the receive query; and applying an algorithm to respective properties of the identified set of domain models to compute a data value relating to the documents represented by the identified set.* As conceded in the Office Action, Birsan, *et al.* does not disclose a *set* of domain models, but rather limits its discussion to generation of a single target data model. The Examiner contends that Le Hégaret, *et al.* expressly teaches a *set* of domain models, citing in particular the discussion of the "forest" structure of DOM documents in that reference. However, it is noted that the forest structure discussed in Le Hégaret, *et al.* refers to the structure of the nodes within a *single* DOM document ("In this specification, we use the term structure model to describe the tree-like representation of a document." See also the accompanying figures on Le Hégaret, page 2), and therefore does not discuss techniques in connection with a *set* of domain models. More specifically, neither cited reference discloses applying an algorithm to the respective properties of a set of domain models, or computing a value relating to the set of documents represented by the model.

Moreover, amended independent claim 10 recites, *means for determining the presence of a keyword in a document that matches a keyword appearing in the pre-set vocabulary list;* **means for searching the document for additional keywords related to the matching keyword to determine a context for the matching keyword;[and]** *means for representing the document as a collection of at least one domain model,* **the domain model based at least on the matching keyword and the additional related keywords.** As discussed *supra*, neither cited reference teaches or suggests searching a document for a keyword, and subsequently performing a search for additional words related to the matching keyword. Nor do the references disclose utilizing both the matching keyword and the additional related keywords as the basis for generating a domain model representation of the document.

Additionally, amended independent claim 11 recites, *determine the presence of a keyword in a document that matches a keyword appearing in the pre-set vocabulary list;* **search the document for additional keywords related to the matching keyword to determine a context for the matching keyword;** *represent a document as a collection of at least one domain model,* **the domain model based at least on the matching keyword and the additional related keywords.** Neither cited reference discloses these aspects, as noted above.

Also, claim 8 recites, *applying an algorithm to the respective properties of the retrieved collection of domain models to compute a data value relating to the collection*, and as already noted, neither cited reference discloses performing such a computation over a retrieved collection of domain models.

In view of at least the foregoing, it is respectfully submitted that Birsan, *et al.*, alone or in combination with Le Hégaret, *et al.*, does not teach or suggest each and every feature set forth in amended independent claims 1, 9, 10, and 11 (and all claims depending there from), and as such fails to make obvious the subject invention. It is therefore requested that this rejection be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP1836USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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